NON-FINAL REJECTION

Receipt is acknowledged of Applicants' Amendments and Remarks, filed 7/23/2009.

Claims 32-39, 43, and 45 have been cancelled.

Claims 31, 40-42, and 44 have been amended and incorporate no new matter.

No new claims have been added.

Claims 1-31, 40-42, 44, and 46-50 are pending, with claims 1-30 and 49-50 withdrawn from consideration as drawn to non-elected inventions.

Thus, claims 31, 40-42, 44, and 46-48 now represent all claims currently pending and under examination.

INFORMATION DISCLOSURE STATEMENT

No new Information Disclosure Statements (IDS) have been submitted.

WITHDRAWN OBJECTIONS/REJECTIONS

Objections

Due to the amendment to the specification, the objection to the specification has been withdrawn.

Rejections under 35 USC §112

Due to the amendments to the claims, the rejection of claims 31-48 under 35 USC §112, first paragraph, for lack of written description, has been withdrawn.

Rejections under 35 USC §103

Due to the amendments to the claims, the rejection of claims 31, 40, 42, 44, and 46-48 under 35 USC §103(a) as obvious over Tjoeng et al. and Hsia in view of Anggard et al. and MacNee has been withdrawn.

Due to the amendments to the claims, the rejection of claim 41 under 35 USC §103(a) as obvious over Tjoeng et al. and Hsia in view of Anggard et al. and MacNee, further in view of Burrows et al. and Lerner has been withdrawn.

NEW REJECTIONS

Claim Rejections - 35 USC § 112 First Paragraph

Scope of Enablement

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 48 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treatment of certain conditions, does not reasonably provide enablement for prevention, or for the treatment or prevention of the broad array of conditions and disease states recited. The specification does not enable

any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with claim 48.

To be enabling, the specification of the patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation. *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993). Explaining what is meant by "undue experimentation," the Federal Circuit has held that:

> The test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed to enable the determination of how to practice a desired embodiment of the claimed invention. *PPG v. Guardian*, 75 F.3d 1558, 1564 (Fed. Cir. 1996).

The factors to be considered in determining whether a disclosure would require undue experimentation are set forth by *In re Wands*, 8 USPQ2d 1400, 1404 (CAFC 1988). These factors are always applied with the understanding that scope of enablement varies inversely with the degree of unpredictability involved. *In re Fisher*, 57 CCPA 1099, 1108, 427 F.2d 833, 839, 166 USPQ 18, 24 (1970). Keeping that in mind, the *Wands* factors are relevant to the instant claims for the following reasons:

A. The nature of the invention and level of skill in the art

The invention relates to steroid compounds which are known in the treatment of various inflammatory conditions, structurally modified to confer the additional therapeutic properties of acting as scavengers of reactive oxygen species to reduce oxidative damage, and nitric oxide release to improve vasodilation. The relative skill of

those in the art is high, that of an MD or PhD.

B. The breadth of the claims

Since the instant specification provides no limiting definition of the term "prevention," the term will be interpreted expansively. The term "prevention" may vary widely in meaning, from "preventing" a disease from occurring to "preventing" it from progressing. Nor is the term limited by any time frame.

The claims are thus very broad insofar as "prevention" suggests that one will not experience the disease when taking the claimed agent; that should one get the disease, it will not worsen; or that following its treatment, it will not recur. While such "prevention" might theoretically be possible under strictly controlled laboratory conditions, as a practical matter it is nearly impossible to achieve in the "real world."

In addition, claim 48 recites conditions which are not reasonably enabled by the specification. For example, claim 48 recites disorders which include respiratory conditions such as asthma, which is supported by Example 14 (pp. 99-100). However, hirsutism, Parkinson's disease, and menopause, for example, are also recited as conditions which can be treated or prevented by administering the claimed compounds. How every condition recited could be treated or prevented is not supported on the basis of the present disclosure.

C. The amount of direction or guidance provided and the presence of working examples

The specification provides no direction or guidance for practicing the claimed invention in its full scope. No specific guidance is provided concerning useful therapeutic protocols for each condition recited by claim 48, other than respiratory diseases, which is corroborated by the working examples.

The instant disclosure provides no evidence to suggest that the unique activity of the claimed compounds can be extrapolated from respiratory disorders to conditions having unrelated or unknown mechanisms of pathology, or to conditions which are not regarded as pathological, such as menopause. In the absence of empirical evidence demonstrating the efficacy of the claimed compounds in the treatment of conditions unrelated to the enabled respiratory disorders, the "how to use" prong of 35 USC 112, first paragraph, has not been met with regard to claim 48.

D. The quantity of experimentation necessary

Because of the unpredictability in preventing any condition, and in treating the broad array of unrelated conditions recited, no one skilled in the art would accept the assertion that the instantly claimed agents could be predictably used to treat or prevent all of the conditions recited by claim 48 and contemplated by the specification. Accordingly, the instant claims do not comply with the enablement requirement, since to practice the claimed invention in its full scope, a person of ordinary skill in the art would have to engage in undue experimentation, with no reasonable expectation of success.

Claim Rejections - 35 USC § 112, Second Paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 31, 40-42, 44, and 46-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the claims recite a compound of formula (4) in which "R^2 is NO donor," "R^5 is NO donor," and R^7 is a group which may be substituted by "an NO donor component." Hence, the atoms in these positions are defined using functional language, and the ambiguous term "NO donor" is not defined with sufficient clarity to adequately define the metes and bounds of the claimed compounds.

In particular, the functional groups which qualify as NO donors are defined ambiguously in the specification. For example, "the nitric oxide donors include –ONO, -ONO_2, -SNO, and –NONOate" (p. 15, lines 10-11). However, the functional group defined by the term "NONOate" is not sufficiently clear, and the use of the word "includes" in this definition indicates that other nitric oxide (NO) donating groups are possible. This is buttressed by another definition: "the nitric oxide donor component may comprise any group capable of acting as a source of nitric oxide (NO) in a charged or uncharged form, including nitrosonium (NO+), nitroxyl (NO-), or nitric oxide (NO●)" (p. 21, lines 5-17). Hence, "NO donor" is defined only in ambiguous, non-limiting terms which do not impart sufficient clarity to the scope of the claimed compounds.

CONCLUSION

Claims 31, 40-42, 44, and 46-48 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARA E. CLARK whose telephone number is (571) 270-7672. The examiner can normally be reached on Mon - Thu, 7:30 am - 5:00 pm (EST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick Krass, can be reached on 571-272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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